A RARE CAUSE OF ANKLE PAIN: OS TRIGONUM SYNDROME

Case Report

AYAK BİLEĞİ AĞRISININ NADİR BİR SEBEBİ: OS TRİGONUM SENDROMU

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ABSTRACT

Os trigonum syndrome which also called posterior ankle impingement syndrome is a rare cause of ankle pain. In this report, we discuss a 39 year old female nurse with os trigonum syndrome resulting posterior ankle pain and swelling. On physical examination posterolateral aspect of left ankle was swolen and painful on palpation. Neurologic and sensory examinations were otherwise normal. Laboratory tests revealed normal complete blood count, sedimentation, C-reactive protein, rheumatoid factor and antinuclear antibody levels.

There was vitamin D deficiency with normal levels of calcium, phophorus, alkaline phosphatase, liver and renal function tests. Magnetic resonance imaging of left ankle revealed os trigonum accompanied by subtalar effusion and soft tissue edema. Non-steroidal anti-inflammatory drug, cold pack application and gentle ankle range of motion exercises were recommended. She responded well to therapy and followed clinically. We aimed to emphasize the os trigonum syndrome in differential diagnosis of posterior ankle pain in order to provide early diagnosis and treatment with a literature review.

Keywords: Anaesthesia, spinal surgery.

ÖZET

Spinal cerrahi her yaştan hastanın söz konusu olabildiği, çeşitli prosedürleri içerir.Perioperatif dönemde oluşabilecek komplikasyonları azaltmak ve önlemek için bu hastaların anestezi yönetimi özellik arz eder.

Os trigonum sendromu, posterior sıkışma sendromu olarak da adlandırılan ve ayak bileği ağrısının nadir bir sebebidir. Bu raporda, 39 yaşında kadın bir hemşirede ayak bileğinin ağrı ve şişmesi ile sonuçlanan os trigonum sendromunu tartıştık. Fizik muayenede sol ayak bileğinin posterolateral yüzü palpasyon ile şiş ve ağrılıydı.

Nörolojik ve duysal muayeneler ise normaldi. Laboratuar testlerde tam kan sayımı, sedimentasyon, C-reaktif protein, romatoid faktör ve antinükleer antikor düzeyleri normal bulundu. Vitamin D eksikliği ile beraber, normal düzeyde kalsiyum, fosfor, alkalin fosfataz, karaciğer ve böbrek fonksiyon test değerleri saptandı. Sol ayak bileğinin manyetik rezonans

görüntülemesi os trigonuma eşlik eden subtalar efüzyon ve yumuşak doku ödemini gösterdi.

Non-steroid anti-enflamatuar ilaç, soğuk ped uygulaması ve hafif düzeyde ayak bileği hareket aralığı egzersizleri önerildi. Hasta tedaviye iyi cevap verdi ve klinik olarak takip edildi. Bu olgu sunumunda erken tanı ve tedavinin sağlanması için posterior ayak bileği ağrısının ayırıcı tanısında os trigonum sendromunu vurgulanmasını amaçladık.

Anahtar Kelimeler: Os trigonum, posterior sıkışma sendromu, ayak bileği ağrısı.

INTRODUCTION

Ankle pain is one of the frequent complaints in outpatient clinics. Os trigonum syndrome which also called posterior ankle impingement syndrome is a rare cause of ankle pain (1,2). Herein, we discuss a patient with os trigonum syndrome with the literature review. We aimed to emphasize the os trigonum syndrome in differential diagnosis of ankle pain in order to provide early diagnosis and treatmentassessment (1).

Case Report

A 39 year old female nurse admitted to the outpatient clinic with the complaint of left ankle pain and swelling which worsened with walking and standing in upright position for a long time. Her symptoms started three years ago with no trauma history. She denied any chronic or metabolic disorder. On physical examination posterolateral aspect of left ankle was swolen and painful on palpation. Her pain was exacerbated especially with plantar flexion of the foot. Neurologic and sensory examinations were otherwise normal. Laboratory tests revealed normal complete blood count, sedimentation, C-reactive protein, rheumatoid factor and antinuclear antibody levels. There was vitamin D deficiency (25OH vitamin D=12,2 ng/ml) with normal levels of calcium, phophorus, alkaline phosphatase, liver and renal function tests. Magnetic resonance imaging (MRI) of left ankle revealed os trigonum at the posterior aspect of talus (Fig.1), accompanied by subtalar effusion and soft tissue edema around os trigonum. A non-steroidal anti-inflammatory drug (NSAID) was prescribed with the diagnosis of os trigonum syndrome, cold pack application and gentle ankle range of motion exercises were recommended, and she was informed about os trigonum and symptom provoking activities. She was suggested not to wear high-heeled shoes. She responded well to therapy and followed clinically.

Discussion

Os trigonum syndrome is one of the causes of posterior foot and ankle pain and it is also called as posterior ankle impingement syndrome (1,3). Os trigonum is an accesory bone which is originated from persistance of the secondary ossification center in the posterolateral aspect of the talus. The ossification generally occurs between 7 and 13 years of age and fuses to the talus; however lateral ossification center may persist as a separate bone in approximately 7%-14% of the population (1). Os trigonum is generally asymptomatic, however, repetitive forced plantar flexion of the ankle leads to impingement of os trigonum and/or soft tissues between calcaneus and talus, and eventually may result in os trigonum syndrome (2). It is predominantly seen in ballet dancers, soccer and football players. Flexor hallucis longus tendinopathy may accompany to os trigonum syndrome, since flexor hallucis longus tendon settles very close to os trigonum in the groove between the lateral and medial processes of the talus and may be injured in posterior impingement (4).

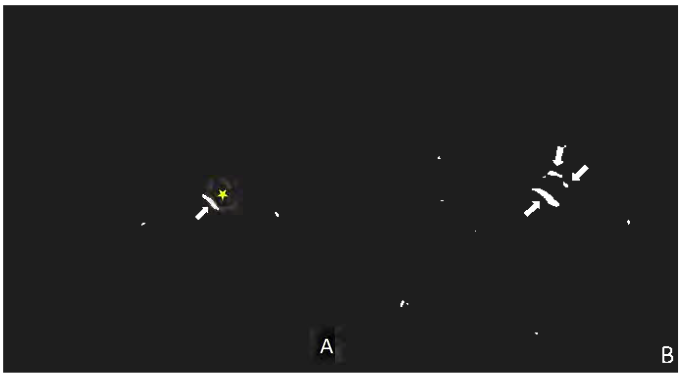

*Fig1: Os trigonum associated with subtalar effusion, sagittal fat-saturated T2-weighted magnetic resonance images of the right ankle show **A** the isolated os trigonum (asterisk) posterior to the talus, posterior subtalar joint effusion (arrows) and **B** subtalar effusion and edema around the os trigonum (arrows).*

Clinically, the syndrome usually emerges when a significant soft-tissue component forms (4). Diagnosis is primarily based on clinical history, physical examination and radiological evaluation. Patients usually complain of pain and disability during ankle movements, especially with plantar flexion. It is important to record daily activities plantar flexion of the ankle and profession of the patient. Our patient was a nurse and her symptoms were more prominent especially on the day after her night shifts. Although she had no history of forced or repetitive plantar flexion of her ankle, probably standing for a long time precipitated the impingement. On physical examination, palpation of the talus posteriorly causes local tenderness and pain which increase with passive flexion of the ankle (2).

Pain during passive movements of hallux suggests flexor hallucis longus tendon involvement (2). Similar findings were present in our patient with the exception of flexor hallucis longus tendinitis. Rarely, restriction of ankle movements can be seen which was not detected in our patient (5). MRI in os trigonum syndrome reveals changes in soft tissue and possible flexor hallucis longus tendon abnormality (4). Bone marrow edema and degenerative bony changes may associate (4). MRI findings in our case were consistent with the literature which revealed soft-tissue abnormalities including subtalar effusion together with the existence of os trigonum and edema around.

The differential diagnosis of os trigonum syndrome includes ankle arthritis, achilles tendon pathologies such as achilles tendinitis or rupture, retrocalcaneal or subcutaneous bursitis, flexor hallucis longus tendinitis, Haglund's deformity, plantar faciitis, tarsal tunnel syndrome, Stepherd's fracture, tarsal bone fractures, Severe disease, and other posterior ankle impingement syndromes related to anomalous muscles like peroneus quartus muscle (6,8).

Treatment should be started with conservative modalities such as resting, bracing, NSAIDs, physical therapy and cryotherapy. Patients should keep away from movements that require ankle plantar flexion. If pes planus accompanies with os trigonum, the arch support insoles may be used. Some authors advocated the use of local anaesthetic and steroid injections (1,9,10). Open or arthroscopic surgical procedures for the resection of os trigonum is considered if conservative treatment is not effective. Surgical treatment was not considered in our case because substantial improvements were achieved by physical therapy. The patient's recovery periods were reported as three to four months for open surgery and nine weeks for arthroscopic surgery (9,10).

In conclusion, ankle pain is a common complaint in physical medicine and rehabilitation, orthopedic and rheumatology clinics. Os trigonum syndrome should be kept in mind in the differential diagnosis of acute and chronic posterior ankle pain. Conservative treatment together with activity modification and informing the patients about symptom provoking activities is highly successful and cost effective whereas surgery may be required in some cases.

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